

Objective

These development and support guidelines are intended to ensure a coordinated and aligned approach to mobile application development and mobile websites at UNSW. Using the guidelines will ensure consistency and the best experience for our users from any type of device.

The guidelines are split in to two sections:

1. **Summary for business units** – supports staff based in faculties or the divisions with a basic overview of mobile principles, the broader mobile strategy and the process to follow when developing a mobile-enabled resource.
2. **Technical principles and requirements** – guides and outlines the technical requirements for developers who are producing mobile-enabled resources.

Summary for business units

1. **Think about what devices students are currently using to access online content.** Would an app be the best solution or HTML5? With HTML5 you can create websites and applications that are richer and more accessible, use native multimedia for audio and video and build intelligent web forms. For example, UNSW Social and MyIT Mobile tool kit apps suit a mobile environment as they solve the stand-alone problem of accessibility, portability and immediacy. However, programs like NavigateMe require a combination of complex graphics and coding that is very difficult or impossible to duplicate within an app.
2. **Does your information or the program you want to develop already exist?** Quite often someone, somewhere on campus has thought developed a similar program. A quick google search can help find out what others have done. It may then simply be a matter of tailoring and/or licensing the program to suit your needs.
3. **Before committing to any mobile development programs,** it's always best to discuss your requirements with an expert at UNSW. Contact our IT Small Scale Solution staff (*insert ph, email*)

Uni-Verse – UNSW's Official App

Uni-Verse is our official UNSW enterprise app host. To ensure its relevance to our University community, only the programs and icon links that are of benefit to all students are placed within Uni-Verse. For example, UNSW Medicine Assessments and UNSW Business School apps are targeted at medical and business students and should only be promoted via their respective faculty communication channels.

If you would like to discuss whether your app or icon link would be a suitable fit within Uni-Verse please email studentlifelearning@unsw.edu.au

Mobile Application Project Review Plan

A Mobile Application Project Review Plan has been created for you to use. It asked some basic questions to help you fully realise your mobile strategy. It can be found here (insert link).

Contact

For further information relating to these development and support guidelines, please contact: Central Web Unit: web@unsw.edu.au

Technical principles and requirements

The following principles underpin the approaches and requirements for mobile applications at UNSW.

Mobile accessible

All applications and websites, where suitable, should be easily accessed and operated from a mobile device such as a mobile phone or tablet. Certain enterprise applications may not be able to fully support mobile devices. However, where possible, applications should be procured or developed which support a 100% mobile optimised experience.

Device independent and standards compliant

Applications or websites should support a standards based approach to development and therefore provide support for the largest range of devices possible. In most cases this means that mobile applications or websites be developed as a HTML5 website, or the latest standards in web technology, following responsive design principles. Mobile applications developed for a specific native platform (such as iOS or Android) should only be considered if they meet at least one of the following criteria:

1. **Required functionality cannot be developed using HTML5 technologies.** For example, a VR virtual campus tour application that relies upon high-performance graphics and access to the native gyroscopes of the device may provide a better experience for the user as a native iOS or Android application than is currently possible using web standard technologies.
2. **Information or functionality is required to be frequently and quickly accessed by a core group of users.** In some instances a native application (that is downloaded to the device and always accessible on a user's home screen) provides a superior experience in terms of speed and ease of access. In these cases, a native application can be a preferable solution to a mobile website that requires the user to open their web browser and manually navigate to a particular site. For example, a security application targeted to the current student and current staff audience may be appropriate as a native mobile application. In this example it may be quicker and more convenient to access the native application for essential information in time critical scenarios.
3. **Marketing benefits arise from providing a native application.** A native application may have a superior perceived level of quality by certain audience segments that the university targets. Therefore a native iOS or Android application could provide marketing benefits for UNSW as opposed to providing the same information or functionality as a responsive website. In these cases, the true benefits of a native application development should be carefully weighed against the higher initial and ongoing costs that such a development entails. For example an Open Day native application could have marketing benefits for UNSW as it will be more front-of-mind with prospective students and allow the university to follow-up with push notifications and other mechanisms for ongoing engagement.

Even in cases where a native application is necessary and one of the above criteria are met, a better solution may be to develop a base HTML5 responsive website which is then wrapped and hosted in a minimal native application. This hybrid solution can provide the benefits of both a standards compliant website and a native application. In this way, HTML5 is preferred as a first approach, hybrid as a second and native last. UNSW IT prefer to use a hybrid approach, which ensures that it is supported across devices.

Policy and Branding compliance

All mobile applications and websites must:

- Adhere to the IT Security Policy
- Adhere to all requirements in the UNSW Australia Branding Requirements document

- Adhere to all requirements in the UNSW Australia Web Policy
- Comply with copyright, trademark law, intellectual property and licensing considerations before release.
- Meet requirements of the university's privacy policy as well as industry best practices for secure collection of data.
- Adhere to all other relevant UNSW policies and guidelines

Single Sourcing of Data

Data, content and information should be sourced from a single authoritative information source and not unnecessarily duplicated within a mobile application. The same content or information shouldn't be created once for a website and then copied or recreated for a mobile application or mobile website.

From a technical perspective, a native application could embed a 'Web-view' to render HTML5 responsive pages and display information that is already available in that form. Alternatively a Web service could be utilised to access information from a single source and then displayed natively in the mobile application's UI. Manual duplication of information, data and content can lead to issues of currency, relevancy and accuracy of information displayed.

For example, a custom-built Campus Maps application should directly access the information on buildings and facilities from a central information source (either a web page or web service) instead of copying this information into the native application where it will need to then be manually updated in multiple locations whenever a change is made.

To meet this principle, it is best to use the exact same instance of a content management system for a mobile website or application that is being used for the desktop website.

Sustainable

Mobile applications and websites should only be developed when they can be sustainably maintained and updated. If an initiative doesn't have the ability, resources or funding to:

1. provide ongoing updates to information and content
2. maintenance of comments and feedback from users
3. maintenance to the underlying technology or
4. upgrades for security or compatibility reasons

Then the mobile site or application shouldn't be created.

In particular, native mobile applications require ongoing updates and technical support simply to continue to function as vendors release new devices and operating systems. Abandoned, orphaned and non-functional mobile websites and applications have an adverse effect on the reputation of the university and therefore should be avoided where possible.

Governance

Websites and mobile websites

As per the UNSW Web Policy, the Central Web Unit must be notified of all proposed UNSW website developments, including mobile website developments. This is to ensure that the site meets branding, policy and best-practice user experience approaches.

Native or hybrid mobile applications

The UNSW Mobile Governance Group must be notified of any proposed native mobile application development at UNSW. The notification should include a short description of the proposal and how it

meets these guidelines. Approval must be given for all new UNSW mobile application developments by the UNSW Mobile Governance Group before proceeding.

Listing of new mobile applications on any particular vendors App Store (such as the Apple App Store or Google Play) is managed by the Small-Scale Solutions group within UNSW IT.

Compliance of Apps

If an application is found to be breaching compliance of university guidelines the university may:

- request to facilitate changes or remove an app
- remove the app from the approved list
- revoke permission to use UNSW Australia branding, or
- take other appropriate steps to resolve the problem.

Data governance

Please refer to the Data Governance Policy and Data Classification Standard on the UNSW Governance website or via BRIDG.

Contact

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The University reserves the right to update this policy to address changes in technology and approach as they occur.

Appendix

Glossary of terms

Web app – Browser based meaning that users must have internet access to view the page.

Native apps – Fully self-contained, downloaded from the app store and incorporates use of mobile functionality (e.g. camera, video or global positioning). Apps are not intended to repurpose web content.

Hybrid native app – Also downloaded from app store, but contains embedded programming that retrieves data from a remote services each time the app is used.

Hybrid app - A hybrid application (hybrid app) is one that combines elements of both native and Web applications.

HTML5 - HTML 5 is a revision of the Hypertext Markup Language (HTML), the standard programming language for describing the contents and appearance of Web pages.

Content management system – a user-friendly interface or application that allows users to publish, edit, organise or delete information in a collaborative environment.

Enterprise Application – A software product which is used on a University-wide scale by students, staff and other stakeholders.

Register of existing UNSW apps

Name	Overview	Owner	Audience	Map	Timetable	Events	News	App store	Google play
UNSW Uni-Verse	Official university app	MGG group	All	✓		✓	✓	✓	✓
UNSW Library	Links to Library catalogue and website	Library	All					✓	✓
StaySafe@UNSW	Security tips, info and maps	Security	All	✓				✓	✓
UNSW Social	Student meet-up app	SLL	All					✓	
UNSW myIT Mobile	IT support	IT	All					✓	✓
UNSW Green Trail	Interactive audio-tour	Sustainability	All					✓	
UNSW Uniken	Online version of print magazine	Advancement	All (external)					✓	✓
UNSW Business School	Promotional tool for Postgraduate students	Business	PG					✓	
UNSW Green	Sustainability focussed map, news	Sustainability	All	✓				✓	
UNSW	Flipped	Business	Bus	✓				✓	

Business Classroom VR	classroom tour								
UNSW Medicine Assessments	Assessment forms, logbook	Medicine	Med						✓
BPSD Guide - Dementia	For medical practioners	Medicine	Med					✓	✓
Care4Dementia	For medical practioners	Medicine	Med						✓
Arc iDiary	Event planning tool for Arc	Arc	All				✓	✓	
Arc Publications	Arc magazines/publications	Arc	All					✓	
Roundhouse	Roundhouse events and venues	Arc	All			✓			

External apps

- Lost on Campus by Student Services Australia – crowd sourced mapping tool
- UNSW Map by Student Services Australia – crowd sourced mapping tool
- Timeweave by Matthew Duong – timetable iCal push functionality
- Open Learning by Open Learning Global – MOOC provider
- Jodel by tellM GmbH – location based micro-blogging site